REMARKS/ARGUMENT

1)   Claims 1-17, 19-27 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Gerhards et al. (U.S. Pub. No. 2003/0012312). Applicants respectfully traverse this rejection, as set forth below.

In order that the rejection of Claims 1-17, 19-27 and 30 be sustainable, it is fundamental that "each and every element as set forth in the claim be found, either expressly or inherently described, in a single prior art reference." *Verdegall Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also, *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), where the court states, "The identical invention must be shown in as complete detail as is contained in the ... claim".

Furthermore, "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Independent Claim 1, as amended, requires and positively recites, a method for detecting signals comprising: "reading **sets** of search parameters", "**generating groups of hypotheses from the sets** of search parameters", "assigning each hypothesis from **selected ones of the groups** to a respective correlator", "correlating a pseudo-random number (PN) sequence generated from each hypothesis against a received sequence", "accumulating the correlation result" and "processing the accumulation result".

Independent Claim 13, as amended, requires and positively recites, a circuit comprising: "a memory to store sets of search parameters and search results, wherein each set of search parameters is assigned a reference number, **and a set of search results for a set of search parameters is stored with the same reference number**",

"a searcher coupled to the memory, the searcher containing circuitry to read a set of search parameters from the memory, process pseudo-random number (PN) sequences generated based on the set of search parameters with a received sequence, and write the correlation results to a set of search results with the reference number of the set of search parameters" and "a sequence generator coupled to the searcher, the sequence generator containing circuitry to generate a PN sequence from each hypothesis provided to it by the searcher".

Independent Claim 19 requires and positively recites, a wireless device comprising: "an analog front end coupled to an antenna, the analog front end containing circuitry to filter and amplify a received signal provided by the antenna", "an analog-to-digital converter (ADC), the ADC to convert an analog signal provided by the analog front end into a digital symbol stream" and "a processing unit coupled to the ADC, the processing unit **containing circuitry** **to store together dependent sets** of search parameters, search results, and test hypotheses derived from the sets of search parameters.

In contrast, Gerhards discloses reading individual search parameters, but NOT "sets" of search parameters (paragraph [0007], lines 1-3 where Gerhards specifically sets forth that it attempts to correlate "a reference code" with a received signal). Nowhere does Gerhards teach or suggest that it reads more than one set of search parameters or that it generates more than one group of hypotheses in any attempted "acquisition". Further, since Gerhards fails to teach or suggest that it reads more than one set of search parameters or that it generates more than one group of hypotheses in any attempted "acquisition", it further fails to teach or suggest assigning each hypothesis from selected ones of the groups to a respective correlator.

Accordingly, Gerhards fails to teach or suggest, "reading **sets** of search parameters", "**generating groups of hypotheses from the sets** of search parameters", "assigning each hypothesis from **selected ones of the groups** to a respective correlator", as required by Claim 1, OR "a memory to store sets of search parameters and search results, wherein each set of search parameters is assigned a reference number, **and a set of search results for a set of search parameters is stored with the same reference number**", as required by Claim 13, OR "a processing unit coupled to the ADC, the processing unit **containing circuitry to store together dependent sets** of search parameters, search results, and test hypotheses derived from the sets of search parameters", as required by Claim 19. Accordingly, the 35 U.S.C. 102(e) rejection of Claims 1, 13 and 19 is overcome.

Claims 2-12, 14-17, 20-27 and 30 stand allowable as depending directly, or indirectly, respectively from allowable Claims 1, 10 and 19.

Claim 2 further defines the method of claim 1, wherein the sets of search parameters are stored in a record memory. Claim 2 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 3 further defines the method of claim 2, wherein dependent sets of search parameters are stored together in a portion of the record memory. Claim 3 depends from Claim 2 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 4 further defines the method of claim 2, wherein there is a result memory, and wherein results from the processing are stored in the result memory with the same reference number as used to store the set of search parameters used to obtain the results from processing. Claim 4 depends from Claim 2 and stands allowable for the same reasons set forth above in support of the allowability of Claim 2.

Claim 5 further defines the method of claim 1 further comprising prior to the reading: "determining availability of storage space" and "writing the set of search parameters by a control unit if storage space is available". Claim 5 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 6 further defines the method of claim 5 further comprising repeating the determining and the writing until storage space is no longer available or all sets of search parameters have been written. Claim 6 depends from Claim 5 and stands allowable for the same reasons set forth above in support of the allowability of Claim 5.

Claim 7 further defines the method of claim 1 wherein the assigning comprises: "assigning each hypothesis from the group to a correlator if there are as many idle correlators as there are hypotheses in the group" and "assigning as many hypotheses as there are idle correlators, wherein each hypothesis is assigned to a correlator, if there are fewer idle correlators than hypotheses". Claim 7 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 8 further defines the method of claim 1, wherein the assigning comprises: "determining if there are a sufficient number of correlators" and "repeating the reading, generating, and assigning with a different set of search parameters if there is an insufficient number of correlators". Claim 8 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 9 further defines the method of claim 1 further comprising repeating the reading, generating, and assigning as long as there are idle correlators. Claim 9 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 10 further defines the method of claim 1 further comprising storing the results from the processing. Claim 10 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 11 further defines the method of claim 10, wherein each dependent set of search parameters is assigned a common reference number, and wherein the results of the processing using the dependent set of search parameters is stored using the common reference number. Claim 11 depends from Claim 10 and stands allowable for the same reasons set forth above in support of the allowability of Claim 10.

Claim 12 further defines the method of claim 1, wherein each set of search parameters specifies a single hypothesis, and wherein each group of hypotheses contains the single hypothesis of a set of the search parameters. Claim 12 depends from Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 1.

Claim 14 further defines the circuit of claim 13, wherein the memory further comprises: "a common parameter storage space to store search parameters common to each set of search parameters currently in the memory" and "a common result storage space to store search results common to each search result currently in the memory". Claim 14 depends from Claim 13 and stands allowable for the same reasons set forth above in support of the allowability of Claim 13.

Claim 15 further defines the circuit of claim 13 further comprising: "a hypothesis generator coupled to the memory and the search engine, the hypothesis generator containing circuitry to generate hypotheses from the set of search parameters and from a timing reference provided by the searcher" and "a result processor coupled to the search engine and the memory, the result processor containing circuitry to compare the set of search results against a specified threshold". Claim 15 depends from

Claim 1 and stands allowable for the same reasons set forth above in support of the allowability of Claim 13.

Claim 16 further defines the circuit of claim 13, wherein the searcher comprises: "a plurality of correlators to correlate a received sequence with each of the generated PN sequences", "a control memory to store control information for use in the processing of the generated PN sequences" and "a scratch memory to store temporary results during the processing". Claim 16 depends from Claim 13 and stands allowable for the same reasons set forth above in support of the allowability of Claim 13.

Claim 17 further defines the circuit of claim 16, wherein the control memory and the scratch memory are partitioned into a plurality of storage spaces, and wherein there is a control memory storage space and a scratch memory storage space for each correlator. Claim 17 depends from Claim 16 and stands allowable for the same reasons set forth above in support of the allowability of Claim 16.

Claim 20 further defines the wireless device of claim 19, wherein the processing unit comprises: "a memory to store sets of search parameters and search results, wherein each set of search parameters is assigned a reference number, and a set of search results for a set of search parameters is stored with the same reference number", "a controller coupled to the memory, the controller to write sets of search parameters to the memory and retrieve sets of search results from the memory" and "a searcher coupled to the memory and the controller, the searcher containing circuitry to read a set of search parameters from the memory, create hypotheses from the set of search parameters, correlate the hypotheses with a received sequence, and write the correlation results to a set of search results with the reference number of the set of search parameters". Claim 20 depends from Claim 19 and stands allowable for the same reasons set forth above in support of the allowability of Claim 19.

Claim 21 further defines the wireless device of claim 20, wherein the memory further comprises: "a common parameter storage space to store search parameters common to each set of search parameters currently in the memory" and "a common result storage space to store search results common to each search result currently in the memory". Claim 21 depends from Claim 20 and stands allowable for the same reasons set forth above in support of the allowability of Claim 20.

Claim 22 further defines the wireless device of claim 20, wherein the searcher comprises a plurality of correlators, wherein a set of search parameters can result in a plurality of hypotheses, and wherein each hypothesis from the plurality of hypotheses is assigned to a unique correlator. Claim 22 depends from Claim 20 and stands allowable for the same reasons set forth above in support of the allowability of Claim 20.

Claim 23 further defines the wireless device of claim 22, wherein each assigned correlator correlates a pseudo-random number (PN) sequence generated from its hypothesis with a received sequence. Claim 23 depends from Claim 22 and stands allowable for the same reasons set forth above in support of the allowability of Claim 22.

Claim 24 further defines the wireless device of claim 23, wherein each assigned correlator correlates with the same received sequence. Claim 24 depends from Claim 23 and stands allowable for the same reasons set forth above in support of the allowability of Claim 23.

Claim 25 further defines the wireless device of claim 20, wherein the controller also specifies when the searcher may assert an interrupt to notify the controller that the searcher has completed processing an assigned search. Claim 25 depends from Claim 20 and stands allowable for the same reasons set forth above in support of the allowability of Claim 20.

Claim 26 further defines the wireless device of claim 19, wherein the wireless device operates in a digital communications network. Claim 26 depends from Claim 19 and stands allowable for the same reasons set forth above in support of the allowability of Claim 19.

Claim 27 further defines the wireless device of claim 26, wherein the digital communications network is a direct sequence spread spectrum communications network. Claim 27 depends from Claim 26 and stands allowable for the same reasons set forth above in support of the allowability of Claim 26.

Claim 30 further defines the wireless device of claim 26, wherein the wireless device is capable of operating in a plurality of digital communications networks. Claim 30 depends from Claim 26 and stands allowable for the same reasons set forth above in support of the allowability of Claim 26.

2)   Claims 18, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerhards et al. (U.S. Pub. No. 2003/0012312). Applicants respectfully traverse this rejection, as set forth below.

Claim 18 further defines the circuit of claim 13, wherein the memory can store eight (8) sets of search parameters, eight (8) sets of search results, and wherein the searcher has 256 correlators.

Claim 28 further defines the wireless device of claim 27, wherein the digital communications network is a CDMA2000 compliant communications network.

Claim 29 further defines the wireless device of claim 27, wherein the digital communications network is a Universal Mobile Telephony System (UMTS) compliant communications network.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (MPEP § 2143).

Moreover, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Applicants further point out that a statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the

teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000) (Court reversed obviousness rejection involving technologically simple concept because there was no finding as to the principle or specific understanding within the knowledge of a skilled artisan that would have motivated the skilled artisan to make the claimed invention); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide the suggestion to combine references).

Examiner admits that Gerards does not disclose: a) that the memory can store eight (s) sets of search parameters, eight (8) sets of search results, and wherein the searcher has 256 correlators, as required by Claim 18; b) CDMA or more particularly, CDMA2000, as required by Claim 28; or c) CDMA or more particularly, UMTS. Even if, arguendo, a), b) & c) above would have been obvious to one skilled in the art, Gerards fails to teach or suggest the previously discussed deficiencies of the claims from which Claims 18, 28 and 29 depend. As such, Claims 18, 28 and 29 stand allowable under 35 U.S.C. 103(a) over the Gerhards reference.

Claims 1-30 stand allowable. Similarly new dependent claims 31-37 stand allowable. Applicants respectfully request withdrawal of the remaining rejections and allowance of the application at the earliest possible date.

Respectfully submitted,

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